AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An optical transmitter comprising an encoder for encoding multi-wavelength pulses corresponding to electric sending data by use ~~of a method~~ of time spread/wavelength hopping in accordance with an encoding pattern of the encoder itself, wherein the encoder concurrently executes time delay for every wavelength component at encoding, and time delay due to pre-compensation processing to pre-compensate for difference in propagation time for every wavelength component, occurring due to chromatic dispersion characteristics of a transmission line between the optical transmitter and an optical receiver opposed thereto by $\alpha\%$ ($0 \leq \alpha \leq 100$).

2. (Original) The optical transmitter according to claim 1, wherein the encoder comprises a chirped Fiber Bragg Grating having a plurality of different diffraction gratings, formed in the longitudinal direction of a fiber, serving as an optical element for executing the time delays for every wavelength component.

3. (Original) The optical transmitter according to claim 1, wherein the encoder is capable of varying time delay amounts for every wavelength component.

4. (Original) The optical transmitter according to claim 3, wherein the encoder comprises a circulator, a wavelength multiplexer/demultiplexer, and movable mirrors in number corresponding to the number of wavelengths, and input light entering from an input terminal is delivered to the wavelength multiplexer/demultiplexer by the circulator to be demultiplexed into

respective wavelength components, the respective wavelength components being reflected by the movable mirrors provided for the respective wavelength components, light rays reflected from the movable mirrors provided for the respective wavelength components, respectively, being multiplexed by the wavelength multiplexer/demultiplexer, and multiplexed light being sent out to an output terminal via the circulator to thereby execute time delay for the respective wavelength components.

5. (Original) The optical transmitter according to claim 3, wherein the encoder comprises a wavelength demultiplexer, a plurality of sheets of mirrors including movable mirrors and a wavelength multiplexer, and input light entering from an input terminal is demultiplexed into respective wavelength components by the wavelength demultiplexer, optical signals for the respective wavelength components reaching the wavelength multiplexer after proceeding over optical paths formed by the plurality of sheets of the mirrors, corresponding to the respective wavelength components, whereupon the wavelength multiplexer multiplexes the optical signals for the respective wavelength components that have reached to be sent out to an output terminal, thereby executing time delay for the respective wavelength components.

6. (Currently Amended) An optical receiver comprising a decoder to which an optical signal encoded by use ~~of a method~~ of time spread/wavelength hopping is inputted, and for decoding the optical signal in accordance with a decoding pattern of the decoder itself, wherein the decoder concurrently executes time delay for every wavelength component at decoding, and time delay due to dispersion equalization processing to compensate for difference in propagation time for every

wavelength component, occurring due to chromatic dispersion characteristics of a transmission line between the optical receiver and an optical transmitter opposed thereto by $\beta\%$ ($0 \leq \beta \leq 100$).

7. (Original) The optical receiver according to claim 6, wherein the decoder comprises a chirped Fiber Bragg Grating having a plurality of different diffraction gratings, formed in the longitudinal direction of a fiber, serving as an optical element for executing the time delays for every wavelength component.

8. (Original) The optical receiver according to claim 6, wherein the decoder is capable of varying time delay amounts for every wavelength component.

9. (Original) The optical receiver according to claim 8, wherein the decoder comprises a circulator, a wavelength multiplexer/demultiplexer, and movable mirrors in number corresponding to the number of wavelengths, and input light entering from an input terminal is delivered to the wavelength multiplexer/demultiplexer by the circulator to be demultiplexed into respective wavelength components, the respective wavelength components being reflected by the movable mirrors provided for the respective wavelength components, light rays reflected from the movable mirrors provided for the respective wavelength components, respectively, being multiplexed by the wavelength multiplexer/demultiplexer, and multiplexed light being sent out to an output terminal via the circulator to thereby execute time delay for the respective wavelength components.

10. (Original) The optical receiver according to claim 8, wherein the decoder comprises a wavelength demultiplexer, a plurality of sheets of mirrors including movable mirrors and a wavelength multiplexer, and input light entering from an input terminal is demultiplexed into respective wavelength components by the wavelength demultiplexer, optical signals for the respective wavelength components reaching the wavelength multiplexer after proceeding over optical paths formed by the plurality of sheets of the mirrors, corresponding to the respective wavelength components, whereupon the wavelength multiplexer multiplexes the optical signals for the respective wavelength components that have reached to be sent out to an output terminal, thereby executing time delay for the respective wavelength components.

11. (Currently Amended) An optical transmission system comprising an optical transmitter having an encoder for encoding multi-wavelength pulses corresponding to electric sending data by use ~~of a method~~ of time spread/wavelength hopping in accordance with an encoding pattern of the encoder itself, and an optical receiver having a decoder to which an optical signal transmitted by the optical transmitter and encoded by use ~~of the method~~ of time spread/wavelength hopping is inputted, and for decoding the optical signal in accordance with a decoding pattern of the decoder itself, the optical transmitter and optical receiver being disposed so as to oppose each other with a transmission line interposed therebetween, wherein the optical transmitter according to claim 1 is in use as said optical transmitter.

12. (Currently Amended) An optical transmission system comprising an optical transmitter having an encoder for encoding multi-wavelength pulses corresponding to electric

sending data by use ~~of a method~~ of time spread/wavelength hopping in accordance with an encoding pattern of the encoder itself, and an optical receiver having a decoder to which an optical signal transmitted by the optical transmitter and encoded by use ~~of the method~~ of time spread/wavelength hopping is inputted, and for decoding the optical signal in accordance with a decoding pattern of the decoder itself, the optical transmitter and optical receiver being disposed so as to oppose each other with a transmission line interposed therebetween, wherein the optical receiver according to claim 6 is in use as said optical receiver.

13. (Currently Amended) An optical transmission system comprising an optical transmitter having an encoder for encoding multi-wavelength pulses corresponding to electric sending data by use ~~of a method~~ of time spread/wavelength hopping in accordance with an encoding pattern of the encoder itself, and an optical receiver having a decoder to which an optical signal transmitted by the optical transmitter and encoded by use ~~of the method~~ of time spread/wavelength hopping is inputted, and for decoding the optical signal in accordance with a decoding pattern of the decoder itself, the optical transmitter and optical receiver being disposed so as to oppose each other with a transmission line interposed therebetween, wherein the optical transmitter according to claim 1 is in use as said optical transmitter while ~~the~~ an optical receiver comprising a decoder to which an optical signal encoded by use of time spread/wavelength hopping is inputted, and for decoding the optical signal in accordance with a decoding pattern of the decoder itself, wherein the decoder concurrently executes time delay for every wavelength component at decoding, and time delay due to dispersion equalization processing to compensate for difference in propagation time for every wavelength component, occurring due to chromatic dispersion characteristics of a transmission line

between the optical receiver and an optical transmitter opposed thereto by $\beta\%$ ($0 \leq \beta \leq 100$) ~~according to claim 6~~ is in use as said optical receiver, and the sum of $\alpha\%$ in connection with pre-compensation processing at said optical transmitter and $\beta\%$ in connection with dispersion equalization processing at said optical receiver is 100%.